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| 10/575,032 | 04/07/2006 | Martin Tank | P06,0015 | 7326 |
| 26574 | 7590 | 07/23/2010 | EXAMINER | |
| SCHIFF HARDIN, LLP | | | GRAF, NEIL J | |
| PATENT DEPARTMENT | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/575,032 | Applicant(s) TANK, MARTIN | |
| | Examiner NEIL J. GRAF | Art Unit 3737 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 6-10-10. These drawings are accepted.

Claim Objections

2. Claims 16-29 are objected to because of the following informalities: magnetic (MR) resonance should be labeled and written as, “magnetic resonance (MR).” Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 16-29, 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Regarding claim 16, the recitation of “to the patient” on line 3 is unclear and indefinite as recited, what the intended meaning exactly is referencing.

4. Regarding claim 22, it is indefinite and unclear which model is being referenced for the recitation of “model parameters” on line 2.

5. Regarding claim 32, “individualize” on line 7 is indefinite and unclear if this recitation was intended as a verb or adjective.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 16-18, 21-24, 28-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al. (Patent No.: US 6,195,409).

8. It is noted Chang et al. discloses a method for determining the orientation of MR slice images by, generating an arrangement of standardized cross-section (see Figure 3 for the bounding box) initial MR overview exposures (localizer scans) where after a predetermined template model non-specific to any one patient is individualized using an abstract model that is individualized to a patient of whom the overview exposures were generated, by using a computer algorithm to match the two. Location and orientation information for subsequent scans is automatically determined and obtained after the initial MR overview scans are obtained, and is further dependent upon the relative orientation of the individualized template model. It is further disclosed that a quality of individualization to the template model (automatic quality control for a good fit) is performed iteratively by adjusting model parameters (geometric transformations) for rotation, translation, stretching, smearing,....purposes. Also disclosed is the determination of a linguistic (command) destination selected by an operator for positioning the patient (object) by automatically driving the scanner to monitor a patient position through the use of protocols that contain scanning information and parameters from the individualized body model. Chang et al.

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further discloses a control device (computer) for operating an MR apparatus and being programmed with software to control the scanner, in addition to disclosing memory for storing templates and imaging protocols. For a complete description of these and other limitation, see: (abstract, column 2 for lines 66-67, column 3 for lines 1-63, column 4 for lines 15-67, column 5 for lines 38-67, column 6 for lines 1-13)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 19-20, 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (Patent No.: US 6,195,409) in view of Itti et al. ("Automatic Scan Prescription for Brain MRI" Magnetic Resonance in Medicine 45:486-494 (2001)).

It is noted Chang et al. does not disclose an output in the form of a linguistic or graphical format for visualizing the position and orientation of subsequent slice images; using an individualized body model for calculating a body weight; generating cross-sectional initial exposures with intervals of no greater than 15 or 50 cm. Itti et al. is directed towards the field of determining subsequent slice image orientations for MRI slice images, and does disclose outputting with a processor the position and orientation in graphical format for visualizing subsequent slice images with slice gaps of 1 mm, where it would be obvious to compute a body weight since the scanning volume is determined for a patient in Itti et al. It would have been

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obvious to one of ordinary skill in the art at the time of the invention to incorporate the limitations of Chang et al. with Itti et al.. The motivation to do so would be that both are directed towards the process of using an individualization process for matching models to images for the purpose of executing subsequent scans of patients.

Response to Arguments

11. Applicant's arguments filed on 6-10-10 have been fully considered but they are not persuasive. Regarding Applicant's arguments directed to incorrectly equating the model in the Chang et al. reference, Examiner respectfully disagrees, where the body model as defined in Applicant's independent claims was equated to the reference template, not the abstract, schematic description ("model") as discussed in the Chang et al. reference. Examiner further notes as discussed in the Chang et al. reference for column 3, lines 38-42, that the object of interest is equated to an organ of interest or a subobject of interest that yields an abstract, schematic description of the object of interest. It is further noted with respect to Applicant's arguments that no generalized anatomical body model is claimed as a "starting point" for Applicant's invention. And finally with regards to Applicant's argument that Chang et al. does not suggest or disclose determining the position and orientation of subsequent slice images, Examiner respectfully disagrees and notes Chang discusses determining optimal scanning parameters using protocols for the reliable, precise, and accurate prescription of new (subsequent) scans, where these limitations can be found in columns 3 and 6.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEIL J. GRAF whose telephone number is (571)270-5366. The examiner can normally be reached on M-F, 7:30-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ruth S. Smith/
Primary Examiner, Art Unit 3737

/NEIL J. GRAF/
Examiner, Art Unit 3737